



Lift-off to the COMMON CORE

Here are five steps schools can take to help students become independent, literate learners in content areas.

A year ago I attended a meeting featuring special guest Sally Ride, the first female astronaut. She came to this meeting of curriculum and instruction specialists gathered from all parts of California to answer a single question: Why do children lose interest in science, especially as they move through the grades in school?

Ride's active participation at this meeting affirmed her interest in keeping the pipeline of developing scientists on the cutting edge for the United States. A further affirmation of her commitment to the improvement of science education was her founding of the Sally Ride Science Foundation, guided by the motto "To inform and inspire through innovative science programs and publications."

As the meeting unfolded, responses resounded quickly and in unison. Most participants agreed that providing more hands-on activities in science would improve both teachers' science instruction and students'

intrinsic interest. Teachers need to make science fun. As I listened, I reflected on my recent walk-throughs in schools, watching our exemplary elementary teachers either involving students in hands-on science activities and experiments or explaining science concepts in a direct-instruction mode while the students participated in some type of note taking. Rarely was I seeing the science textbook used as a tool during the science lesson.

When text becomes more difficult

I began to formulate this question: As text becomes more difficult in middle school and in high school, are teachers helping their students develop the schema necessary for dealing with complex, expository text at the higher lexile levels? In my conversation with Sally Ride, I briefly described my contention that text complexity and lex-

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ile levels are related to schema building and learning. Probing for her thoughts on this relationship, I asked her how she learned to be a scientist at the Ph.D. level. Did she learn science content mostly from the lectures at the university, or did she learn from the hours and hours of reading and writing that she completed for her course work? My question was rhetorically answered.

Hands-on science and the Common Core

I have no doubt that lessons must be relevant for students at all levels. Hands-on science activities help to make science more interesting for children and create that sense of wonder and excitement that all of us desire in our classrooms. Excellent teachers have long sought strategies for breaking information down into understandable bits to create an ease of understanding for their students. These components of teaching and learning are very powerful tools and help students understand complicated material.

But hands-on science and teacher lectures do not offer the full course meal. The textbook is often missing. As we sit on the eve of the Common Core State Standards implementation, our students must have multiple opportunities to become independent in their ability to extract meaning from expository text in order to prepare for exams that will require them to read multiple sources to extract meaning, as well as develop arguments and opinions regarding information presented.

Four startling facts

The U.S. Department of Education document “Improving Adolescent Literacy: Effective Classroom and Intervention Practices” (2008) reveals four startling facts to consider as we look at content area reading:

1. Sixty percent of eighth-grade students fall below the proficient level in their ability to comprehend the meaning of text at their grade level.
2. Reading ability is a key predictor of achievement in mathematics and science.
3. Many teachers report feeling unprepared to help their students or do not think that teaching reading skills in content-area classes is their responsibility.
4. Some teachers adjust their assign-

ments or methods of presenting content rather than helping students learn the discipline-specific strategies needed for content-area work.

In other words, by the time the majority of the nation’s students reach eighth grade, they do not possess the literacy levels necessary to manage the information from

ments for the Common Core Standards, not only must our students be able to read expository text proficiently, they must be able to present coherent arguments centered on themes that are justified by selected texts.

Researchers have studied vocabulary levels and rare word counts in written and printed texts versus the rare word counts of



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texts independently; therefore, students are spoon-fed the information during their lessons by way of lecture or hands-on activities. By the time the students are ready for the chapter or unit exam, many teachers present their students with a study guide that has extracted the important information from the text to help their students succeed in the content.

By and large, education has ignored the need for students to become independent, literate learners in the content areas. This problem begins in the early elementary grades by not teaching with the text and reference books as centerpieces for learning of science and social science material. As we prepare for implementation of the assess-

the spoken word. The difference between the two is astonishing. For instance, the rare word count in a children’s book is 30.9 per 1,000, whereas the rare word count from dialogue on Mr. Rogers and Sesame Street is only two per 1,000. The conversation between two college graduates is 17.3 rare words spoken per 1,000. Even the conversation between college graduates bares considerably fewer rare words than the rare words found in children’s books. Talking about science or social studies and giving even our best lecture will fall short in preparing our students with the amount of schema necessary for them to read texts with increasing difficulty.

So, you may ask how this plays out in the

achievement of our students. A child that scores at the 50th percentile on standardized tests reads for approximately 4.6 minutes per day. This adds up to approximately one half hour per week. A child who reads independently for 65 minutes a day scores in the 98th percentile on standardized tests.

From this information, we can draw two conclusions: the more printed text a student reads and interprets, the more vocabulary that child will be exposed to, and the greater volume of pages students read the greater the comprehension. These two factors lead us to understand that teachers must be explicitly teaching students to read the text in class. Expectations must also be set high for students to read out of class as well, with ample follow-up activity to develop a sense of accountability for the reading.

Yet another problem

In April 2010, Daniel Willingham, a respected cognitive scientist, wrote a piece for Valerie Strauss' blog in the *Washington Post* (Strauss, 2010). His analysis of the relatively low NAEP scores, especially in eighth grade language arts, was profound. He explained that much of the test deals with expository text and the need to acquire background information from these texts.

He noted that teachers teach skills and strategies as they apply to narrative text, and that in order for students to transfer their knowledge of skills and strategies to expository text, these skills must be taught explicitly. If we are to help our students conquer the Common Core Standards, we must give them the tools to read expository text.

Recommended instructional strategies

Every day, classroom teachers face time constraints, and teaching efficiency leads to instructional effectiveness. Effectiveness is measured by how much students learn, despite being interrupted by urgent demands that interrupt the flow of teaching. We must seek ways to integrate pedagogy in efficient ways in order to help students master essential reading skills. Some salient instructional strategies include the following:

1. Text structure – Teachers must begin to teach the explicit design and

structure of expository text as part of their language arts program. Teachers must also realize that the teaching of narrative text structure, or story grammar, differs greatly

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from that of expository text. They must use the available science and social studies materials in the classroom as they apply the lessons of expository text. The objectives of these lessons of study must be structured to ensure understanding of how the text works – the organization of the text with its main ideas, supporting details and conclusion.

2. Close reading – During science and social science lessons teachers must model close reading of portions of the textbooks. In close reading, readers read with a pencil in their hand. They underline key words and phrases they identify as significant. Next, the students are directed to look for patterns in the words they have under-

lined. Do the students see any repetitions, similarities or themes? Finally, the students develop questions about the patterns that were noted. It is especially effective to guide students in developing questions beginning with “how” and “why.” While text exploration is critical to developing schema and vocabulary associated with a particular topic, the lessons should include inquiry, hands-on experimentation and projects to instill learning and to create further curiosity in the subjects at hand.

3. Writing about reading – The Common Core Standards demand higher order thinking skills and will be tested in the multiple choice environment as well as in the written response format. Students will be asked to respond to several texts, providing support for their thoughts and ideas. They will need to cite specific examples of expert text as proof for their lines of logic.

To prepare students for the rigor involved in these tasks, students must be taught to write about what they read. These writings begin with the simple task of note taking. As students develop their ideas, time spent sharing in pairs allows them to begin to test their assumptions. Students learning to cite the text when making an argument develop ever longer written works, including research papers.

4. Teach comprehension strategies explicitly – When teaching comprehension strategies, make sure the students understand that the goal of the lesson is to understand the text. Demonstrations of specific strategies are very useful when directed toward the understanding of the context of information to be learned. Reading with a purpose and practicing reading strategically in class will yield great benefit as students are directed toward independence in their reading.

5. Integrated pedagogy – When teachers teach content, they believe that they do not have time to teach reading as well. This is true if the two areas are seen as separate entities. Integration of the two is essential. While teaching concepts of sci-

ence or social studies, the teacher models the strategies that may have been presented in the language arts portion of the day. Students soon discover that the strategies work with every book, not just the English/language arts book.

Knowledge is power

As we prepare for Common Core Standards implementation, we truly have nothing to fear. Knowledge is power, and we have the knowledge to make a difference in every classroom for every student. The Common Core Standards demands are rigorous. This



statement has been heralded in the news and in professional journals, but it does not help us to change practice or to get ready for the next generation in our profession. Understanding our deficits and developing sound, evidence-based practices to close our “practice gaps” will help us to get ready for “lift off” with the Common Core. ■

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An advertisement for California Casualty insurance. On the left, a woman named Ann K. is standing, smiling, wearing a black jacket, a green scarf, and blue jeans. The background is a solid light green. To the right of Ann K., there is large text that reads: “The best benefits and lowest price for educators.” Below this, a quote from Ann K. says: “When I was a new single mom, I had to get my own insurance and compared a lot of different insurance companies. I discovered that California Casualty was the best insurance for me because it had the best benefits and rates for those in the education field.” Below the quote, it says: “Get your no-obligation quote for auto & home insurance.” and provides the phone number 1-866-680-5139 and the website www.CalCas.com/ACSA. There are also social media icons for Twitter, Facebook, and YouTube. At the bottom right, a black box contains the text: “AUTO AND HOME INSURANCE FOR ACSA MEMBERS” followed by a list of benefits: “\$0 Vehicle Vandalism Deductible”, “\$500 Personal Property Coverage”, “Summer/Holiday Skip Payment Option”, and “Generous Additional Discounts”. At the bottom left, there is a logo for California Casualty with the tagline “WE PROTECT AMERICAN HEROES®”. Below the logo, there is a small image of a desk with a globe and a red apple.

Ann K.
Educator
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